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10/830,211

04/21/2004

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7590

07/20/2009

HICKMAN PALERMO TRUONG & BECKER/ORACLE

2055 GATEWAY PLACE

SUITE 550

SAN JOSE, CA 95110-1083

EXAMINER

MORRISON, JAY A

ART UNIT

PAPER NUMBER

2168

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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/830,211	<b>Applicant(s)</b> GE ET AL.	
	<b>Examiner</b> JAY A. MORRISON	<b>Art Unit</b> 2168	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 27 April 2009.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1,2,4-16,21-23,25-42,46,48,49 and 51-61 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,2,4-8,11-14,16,21-23,25-29,32-35,37-39,41,42,46,48,51,52 and 58-61 is/are rejected.
- 7) ☒ Claim(s) 9,10,15,30,31,36,40,49 and 53-57 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Continued Examination Under 37 CFR 1.114***

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 4/27/2009 has been entered.

### ***Remarks***

2. Claims 1-2, 4-16, 21-23, 25-29, 32-42, 46, 48, 49 and 51-61 are pending.

### ***Allowable Subject Matter***

3. Claims 9-10, 15, 30-31, 36, 40, 49 and 53-57 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

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5. Claims 1, 2, 7-8, 11-14, 16, 21-23, 28-29, 32-35, 37-39, 41, 42, 46, 48, 51, 52 and 58-61 rejected under 35 U.S.C. 103(a) as being unpatentable over Jagadish et al. ('Jagadish' hereinafter) ("TIMBER: A native XML database" by Jagadish et al., The VLDB Journal (2002), published online December 19, 2002) in view of Bata et al. ('Bata' hereinafter) (Patent Number 6,901,403).

As per claim 1, Jagadish teaches

A method comprising the computer-implemented steps of: (see abstract)  
gathering statistics by a database server about nodes that are stored in a database repository that is managed by the database server; storing said statistics; (collecting data statistics, section 3.2, fifth paragraph)

wherein said nodes form a hierarchy; wherein each node is either an XML file or an XML file container; (xml data stored in database retaining tree structure, section 1, fourth paragraph; note that the elements in xml data can be considered nodes within the xml hierarchy)

and in response to a request to the database server for access to one or more XML resources from said database repository, the database server computing a computational cost associated with each of two or more methods of accessing said one or more XML resources from said database repository, based on said statistics. (evaluation costs of different plans, section 6, second paragraph; using histograms for node count, section 6.2, third paragraph)

wherein the method is performed by one or more computing devices (architecture of Timber where system shown contains data store which inherently contains a computing device, section 3, figure 2).

Jagadish does not explicitly indicate “wherein at least one node in the hierarchy is an XML file container that contains a plurality of XML files, each of which contains a plurality of XML elements”.

However, Bata discloses “wherein at least one node in the hierarchy is an XML file container that contains a plurality of XML files, each of which contains a plurality of XML elements” (hierarchical arrangement of nodes where nodes may be files, column 15, lines 8-10; note that the files may be XML files as shown in column 16, lines 23-25 and XML files contain a plurality of XML elements).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine Jagadish and Bata because using the steps of “wherein at least one node in the hierarchy is an XML file container that contains a plurality of XML files, each of which contains a plurality of XML elements” would have given those skilled in the art the tools to improve the invention by allowing the accessing, presenting and manipulating of data from databases and allows businesses to better access, present and manipulate data residing in different types of databases. This gives the user the advantage of the ability to not be tied to a single database vendor.

As per claim 2, Jagadish teaches

wherein the step of gathering statistics comprises gathering one or more data from a group consisting of a total number of nodes, in said hierarchy, that are accessible via a path through a specified node, a total number of XML file containers, in said hierarchy, that are accessible via a path through said specified node, a total number of nodes, in said hierarchy, that are accessible via a path through said specified node and that are in a level of said hierarchy that is immediately under a level of said specified node, a total number of XML file containers, in said hierarchy, that are accessible via a path through said specified node and that are in a level of said one or more hierarchies that is immediately under said level of said specified node, and a number of levels, from a root node of said hierarchy, at which said specified node is organized in said hierarchy. (section 6.2, third paragraph)

As per claim 7, Jagadish teaches

XML files of said nodes are XML resources, and the step of storing statistics comprises storing said statistics in a hierarchical index table in which said XML resources are indexed to said database repository. (section 3.2, first paragraph)

As per claim 8, Jagadish teaches

the step of computing a computational cost comprises computing a selectivity value for each of one or more predicates, from said request, that contain operators on said database repository. (page 279, second column, first paragraph)

As per claim 11, Jagadish teaches

XML files of said nodes are XML resources, and the step of computing a computational cost comprises computing a computational cost of traversing, to locate a particular XML resource specified in said request, an index in which said XML resources are indexed to said database repository. (page 277, first column, second paragraph)

As per claim 12, Jagadish teaches

computing said computational cost of traversing an index comprises computing a computational cost associated with one or more CPUs used for said traversing. (page 281, first column, fourth paragraph)

As per claim 13, Jagadish teaches

computing said computational cost of traversing an index comprises computing a computational cost associated with reading data blocks in which portions of said index are stored. (section 7, second paragraph)

As per claim 14, Jagadish teaches

computing said computational cost of traversing an index comprises computing  
(a) a computational cost associated with one or more CPUs used for said traversing and  
(b) a computational cost associated with reading data blocks in which portions of said index are stored. (section 7, second paragraph)



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As per claim 16, Jagadish teaches

said request for access to one or more XML resources from said database repository is a SQL query. (section 2, third paragraph)

As per claim 21, Jagadish teaches

said database repository is part of a relational database management system.  
(section 2, third paragraph)

As per claims 22-23, 28-29, 32-35 and 37,

These claims are rejected on grounds corresponding to the arguments given above for rejected claims 1-2, 7-8, 11-14 and 16, respectively, and are similarly rejected.

As per claim 38, Jagadish teaches

A method comprising the computer-implemented steps of: (see abstract)  
gathering, by a database management system, statistics about how many nodes that are stored in a repository of said database management system satisfy certain criteria; (collecting data statistics, section 3.2, fifth paragraph)

wherein said nodes form a hierarchy; wherein each node is either an XML file or an XML file container; wherein XML files of said nodes are XML resources; (xml data stored in database retaining tree structure, section 1, fourth paragraph; note that the elements in xml data can be considered nodes within the xml hierarchy)

storing said statistics in said database management system; and the database management system using the statistics to determine how to process a query that accesses one or more XML resources. (evaluation costs of different plans, section 6, second paragraph; using histograms for node count, section 6.2, third paragraph)

wherein the method is performed by one or more computing devices (architecture of Timber where system shown contains data store which inherently contains a computing device, section 3, figure 2).

Jagadish does not explicitly indicate “wherein at least one node in the hierarchy is an XML file container that contains a plurality of XML files, each of which contains a plurality of XML elements”.

However, Bata discloses “wherein at least one node in the hierarchy is an XML file container that contains a plurality of XML files, each of which contains a plurality of XML elements” (hierarchical arrangement of nodes where nodes may be files, column 15, lines 8-10; note that the files may be XML files as shown in column 16, lines 23-25 and XML files contain a plurality of XML elements).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine Jagadish and Bata because using the steps of “wherein at least one node in the hierarchy is an XML file container that contains a plurality of XML files, each of which contains a plurality of XML elements” would have given those skilled in the art the tools to improve the invention by allowing the accessing, presenting and manipulating of data from databases and allows businesses to better access,

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present and manipulate data residing in different types of databases. This gives the user the advantage of the ability to not be tied to a single database vendor.

As per claim 39, Jagadish teaches

the step of storing comprises storing said statistics as an XML data type in a schema-based table in said database management system. (section 2, third paragraph)

As per claim 41,

This claim is rejected on grounds corresponding to the arguments given above for rejected claim 38 and is similarly rejected.

As per claim 42, Jagadish teaches

A method comprising the computer-implemented steps of: (see abstract)  
in response to a request for access to one or more XML resources from a database repository within a database management system, accessing, from said database management system, statistics about a structure of a hierarchy associated with said one or more XML resources; (collecting data statistics, section 3.2, fifth paragraph)

wherein nodes form said hierarchy; wherein each node of said hierarchy is either an XML file or an XML file container; (xml data stored in database retaining tree structure, section 1, fourth paragraph; note that the elements in xml data can be considered nodes within the xml hierarchy)

and computing a computational cost associated with each of two or more methods of accessing said one or more XML resources from said database repository, based on said statistics. (evaluation costs of different plans, section 6, second paragraph; using histograms for node count, section 6.2, third paragraph)

wherein the method is performed by one or more computing devices (architecture of Timber where system shown contains data store which inherently contains a computing device, section 3, figure 2).

Jagadish does not explicitly indicate “wherein at least one node in the hierarchy is an XML file container that contains a plurality of XML files, each of which contains a plurality of XML elements”.

However, Bata discloses “wherein at least one node in the hierarchy is an XML file container that contains a plurality of XML files, each of which contains a plurality of XML elements” (hierarchical arrangement of nodes where nodes may be files, column 15, lines 8-10; note that the files may be XML files as shown in column 16, lines 23-25 and XML files contain a plurality of XML elements).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine Jagadish and Bata because using the steps of “wherein at least one node in the hierarchy is an XML file container that contains a plurality of XML files, each of which contains a plurality of XML elements” would have given those skilled in the art the tools to improve the invention by allowing the accessing, presenting and manipulating of data from databases and allows businesses to better access,

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present and manipulate data residing in different types of databases. This gives the user the advantage of the ability to not be tied to a single database vendor.

As per claim 46,

This claim is rejected on grounds corresponding to the arguments given above for rejected claim 42 and is similarly rejected.

As per claim 48,

This claim is rejected on grounds corresponding to the arguments given above for rejected claim 1 and is similarly rejected.

As per claim 51,

Jagadish does not explicitly indicate “the request to the database server for access to one or more XML resources is through a view”.

However, Bata discloses “the request to the database server for access to one or more XML resources is through a view” (user or application defined views of the data, column 15, lines 19-22).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine Jagadish and Bata because using the steps of “the request to the database server for access to one or more XML resources is through a view” would have given those skilled in the art the tools to improve the invention by allowing the accessing, presenting and manipulating of data from databases and allows

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businesses to better access, present and manipulate data residing in different types of databases. This gives the user the advantage of the ability to not be tied to a single database vendor.

As per claim 52, Jagadish teaches

the request includes one or more predicates and said one or more predicates includes at least one operator from the group of: UNDER\_PATH, and EQUALS\_PATH.  
(section 6.1, second paragraph)

As per claim 58, Jagadish teaches

A database system comprising: (see abstract)

one or more hardware processors; (architecture of Timber where system shown contains data store which inherently contains a computing device, section 3, figure 2)

an XML data repository comprising XML files and XML file containers forming a hierarchy; (xml data stored in database retaining tree structure, section 1, fourth paragraph; note that the elements in xml data can be considered nodes within the xml hierarchy)

and a database server, executing on the one or more hardware processors, that manages the XML data repository, wherein the database server is configured to: gather statistics about the XML files and the XML file containers, store said statistics, (collecting data statistics, section 3.2, fifth paragraph) receive a request for access to one or more XML resources from the XML database repository, and compute a

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computational cost associated with each of two or more methods of accessing said one or more XML resources from the XML database repository, based on said statistics (evaluation costs of different plans, section 6, second paragraph; using histograms for node count, section 6.2, third paragraph).

Jagadish does not explicitly indicate “wherein at least one XML file container contains a plurality of XML files, each of which contains a plurality of XML elements”.

However, Bata discloses “wherein at least one XML file container contains a plurality of XML files, each of which contains a plurality of XML elements” (hierarchical arrangement of nodes where nodes may be files, column 15, lines 8-10; note that the files may be XML files as shown in column 16, lines 23-25 and XML files contain a plurality of XML elements).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine Jagadish and Bata because using the steps of “wherein at least one XML file container contains a plurality of XML files, each of which contains a plurality of XML elements” would have given those skilled in the art the tools to improve the invention by allowing the accessing, presenting and manipulating of data from databases and allows businesses to better access, present and manipulate data residing in different types of databases. This gives the user the advantage of the ability to not be tied to a single database vendor.

As per claim 59, Jagadish teaches

A method comprising the computer-implemented steps of: (see abstract)

gathering statistics by a database server about XML files and XML file containers; (collecting data statistics, section 3.2, fifth paragraph)

wherein the XML files and XML file containers are hierarchically stored in a database repository that is managed by the database server; (xml data stored in database retaining tree structure, section 1, fourth paragraph; note that the elements in xml data can be considered nodes within the xml hierarchy)

receiving a request to the database server for access to one or more XML resources; (xml data stored in database retaining tree structure, section 1, fourth paragraph; note that the elements in xml data can be considered nodes within the xml hierarchy)

computing a selectivity value, based at least in part on the statistics, for a predicate included in the request; (predicate evaluation, section 6.1, second paragraph)

and determining a query plan based, at least in part, on the selectivity value; (evaluation costs of different plans, section 6, second paragraph; using histograms for node count, section 6.2, third paragraph)

wherein the method is performed by one or more computing devices.  
(architecture of Timber where system shown contains data store which inherently contains a computing device, section 3, figure 2)

Jagadish does not explicitly indicate “through a view”.

However, Bata discloses “through a view” (user or application defined views of the data, column 15, lines 19-22).



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It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine Jagadish and Bata because using the steps of “through a view” would have given those skilled in the art the tools to improve the invention by allowing the accessing, presenting and manipulating of data from databases and allows businesses to better access, present and manipulate data residing in different types of databases. This gives the user the advantage of the ability to not be tied to a single database vendor.

As per claims 60-61,

These claims are rejected on grounds corresponding to the arguments given above for rejected claims 51 and 59, respectively, and are similarly rejected.

6. Claims 4-6 and 25-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jagadish et al. ('Jagadish' hereinafter) ("TIMBER: A native XML database" by Jagadish et al., The VLDB Journal (2002), published online December 19, 2002.) in view of in view of Bata et al. ('Bata' hereinafter) (Patent Number 6,901,403) and further in view of Michel et al. ('Michel' hereinafter) (Patent Number 7,113,936).

As per claim 4,

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Neither Jagadish nor Bata explicitly indicate “the step of storing statistics comprises storing said statistics in a relational table of a database of which said database repository is part”.

However, Michel discloses “the step of storing statistics comprises storing said statistics in a relational table of a database of which said database repository is part” (column 14, lines 38-45)

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine Jagadish, Bata and Michel because using the steps of “the step of storing statistics comprises storing said statistics in a relational table of a database of which said database repository is part” would have given those skilled in the art the tools to improve the invention by utilizing a efficient technique for use in storing large amounts of data, such as statistics. This gives the user the advantage of more efficient use of resources and faster access times.

As per claim 5, Jagadish teaches

XML files of said nodes are XML resources, and said relational table is a first relational table that is a different table than a second relational table in which said XML resources are stored in said database repository. (section 2, third paragraph)

As per claim 6, Jagadish teaches

said relational table is a relational table in which said XML resources are stored in said database repository. (section 2, third paragraph)

As per claims 25-27,

These claims are rejected on grounds corresponding to the arguments given above for rejected claims 4-6 and are similarly rejected.

### ***Response to Arguments***

7. Applicant's arguments, see page 13, filed 4/27/2009, with respect to the 35 USC 101 rejections of claims 47-48 have been fully considered and are persuasive. The 35 USC 101 rejections of claims 47-48 has been withdrawn.

Applicant's arguments filed 4/27/2009 have been fully considered but they are not persuasive. Applicant argues that Jagadish does not disclose XML file containers or access to XML resources through a view, as described in the amended claims.

However it is respectfully submitted that Bata teaches these limitations as shown in the above rejections. Therefore, applicant's arguments with respect to claims 1, 2, 4-8, 11-14, 16, 21-23, 25-29, 32-35, 37-39, 41, 42, 46, 48, 51, 52 and 58-61 have been considered but are moot in view of the new ground(s) of rejection.

### ***Conclusion***

8. The prior art made of record, listed on form PTO-892, and not relied upon is considered pertinent to applicant's disclosure.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jay A. Morrison whose telephone number is (571) 272-7112. The examiner can normally be reached on M-F 8-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tim Vo can be reached on (571) 272-3642. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/Jay Morrison/

Jay Morrison  
TC2100